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The third hypogean *Domene* species from Greece (Coleoptera: Staphylinidae: Paederinae)*

Volker ASSING

A b s t r a c t : *Domene (Domene) vailatii* nov.sp. (Greece: Thesprotia), the third hypogean representative of *Domene* FAUVEL, 1873 from Greece, is described and illustrated. The species is apparently subject to a remarkably biased sex ratio; only one of the 22 type specimens is a male. The distributions of the four hypogean *Domene* species known from Greece and Albania are mapped.

K e y w o r d s : Coleoptera, Staphylinidae, Paederinae, *Domene*, Greece, taxonomy, new species, hypogean habitat, MSS, sex ratio, distribution map.

Introduction

According to a recent contribution, the Palaearctic genus *Domene* FAUVEL, 1873 included a total of 67 named species in six subgenera (ASSING 2016). In the meantime five additional species have been described from China (PENG 2017).

Four subgenera and 41 species are distributed in the West Palaearctic region. Three of these subgenera are confined to the West Mediterranean and the Canary Islands; they include a total of 19 described species, all of them hypogean and locally endemic. The remainder belongs to the nominal subgenus. One of the names, *D. lohseiana* BORDONI, 1977, is pending synonymization, so that *Domene* sensu strictu currently includes 21 species. Three of them are epigeic and more or less widespread. This particularly applies to *D. stilicina* (ERICHSON, 1840), the sole winged representative of the genus in the West Palaearctic, whose vast distribution ranges across all of the East Mediterranean region from Italy and Tunisia to the Middle East. *Domene scabricollis* (ERICHSON, 1840) is relatively widespread in Central Europe, Italy, and the Balkans, and *D. aciculata* HOPFFGARTEN, 1878 is known from the northern Balkans Peninsula (Croatia, Serbia, Bosnia-Herzegovina). Three species described from Croatia and at present known only from their respective type localities have functional eyes, suggesting that they are epigeic. The remaining 15 *Domene* sensu strictu species, some of them still listed as incertae sedis in the latest edition of the Palaearctic catalogue (SCHÜLKE & SMETANA 2015), have more or less strongly reduced eyes, are locally endemic, and evidently adapted to a hypogean or other subterranean habitat. Eleven of them are distributed in the West Mediterranean (Spain: 10; Southwest France: 1; Algeria: 1), one in Turkey, one in

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Albania, and two in Greece. Two of the three species recorded from Greece and Albania were found in caves, *D. behnei* ZERCHE, 2008 in Kérkyra (Corfu) and *D. ziui* PAVIĆEVIĆ et al., 2014 in South Albania, not far from the border with Greece. The third species, *D. giachinoi* ASSING, 2007, was collected in Thesprotia, Northwest Greece, with subterranean pitfall traps in the MSS stratum.

Material of Staphylinidae collected with subterranean pitfall traps recently made available to me by Pier Mauro Giachino (Torino) and Dante Vailati (Brescia) included a series of an undescribed microphthalmous *Domene* species from a locality in Thesprotia, Northwest Greece.

Material and methods

The material treated in this study is deposited in the following collections:

cAss..... author's private collection
 cFel private collection Benedikt Feldmann, Münster
 cGia..... private collection Pier Mauro Giachino, Torino
 cVai..... private collection Dante Vailati, Brescia
 cWun..... private collection Paul Wunderle, Mönchengladbach

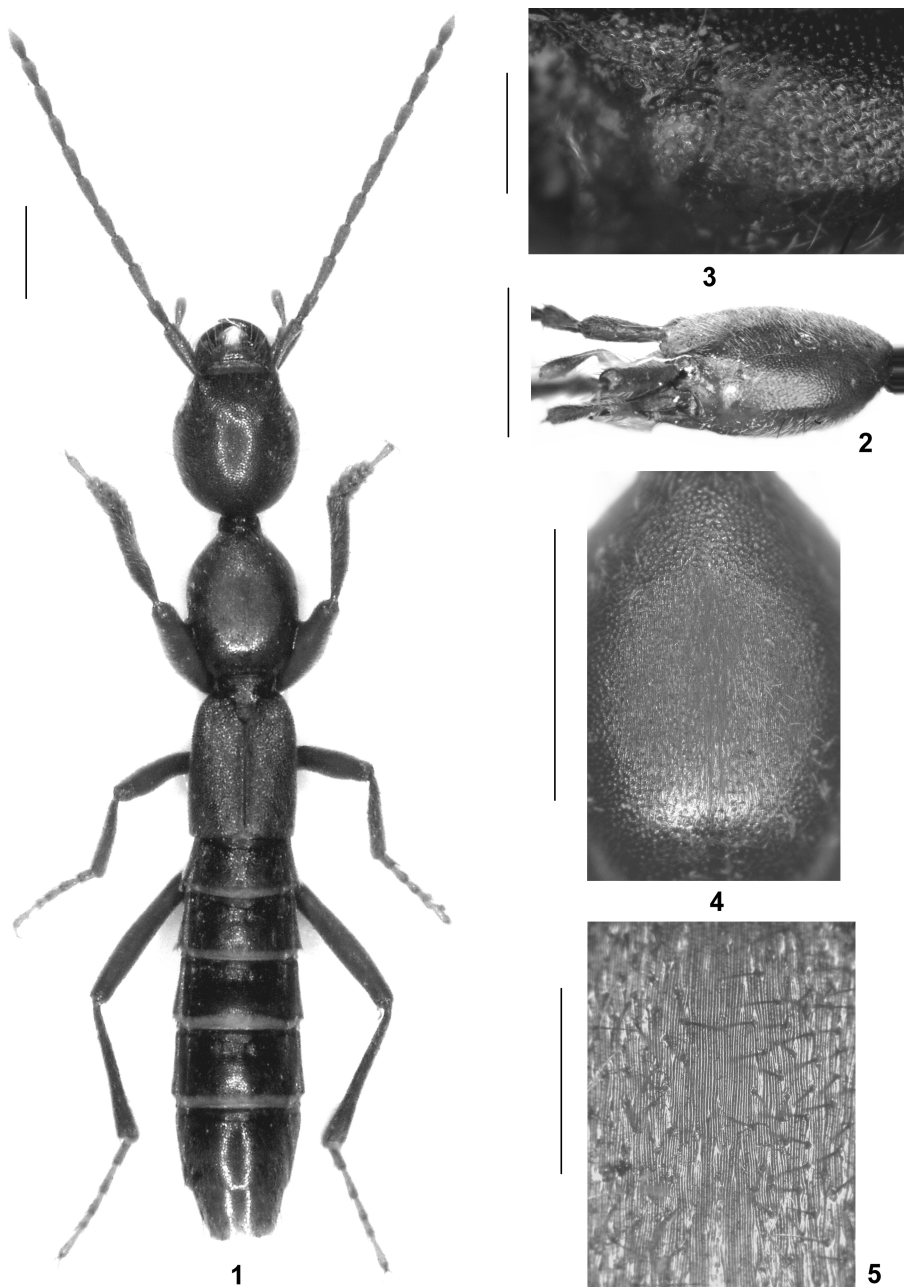
The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss), a Discovery V12 microscope (Zeiss), and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software, as well as a digital camera (Nikon Coolpix 995) and Axiocam ERc 5s. The map was created using MapCreator 2.0 (primap) software.

Body length was measured from the anterior margin of the mandibles (in resting position) to the abdominal apex, the length of the forebody from the anterior margin of the mandibles to the posterior margin of the elytra, head length from the anterior margin of the frons to the posterior constriction of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra (at the suture), and the length of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The "parameral" side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

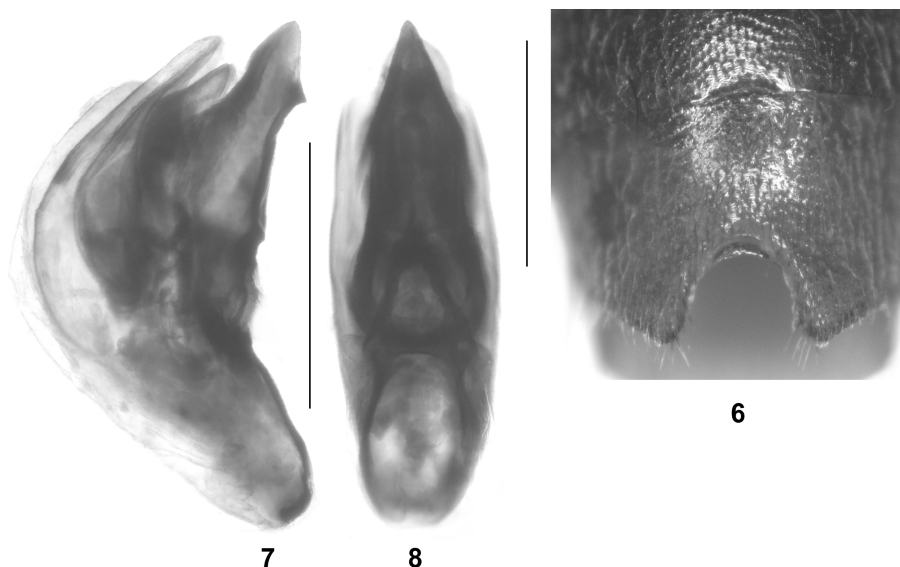
For a detailed description of the collecting method, including the setup of the subterranean pitfall traps, and the hypogean environment see GIACHINO & VAILATI (2010)

Domene (Domene) vailatii nov.sp. (Figs 1-9, Map 1)

Type material: Holotype ♂: "GRECIA nom. Thesprotia, O. Tsamantá, Tsamantás, N39°46'49.3" E20°20'43.3", m 540, 9.VI.2016-12.VI.2017, Giachino & Vailati leg. / Holotypus ♂ *Domene vailatii* sp.n. det. V. Assing 2018" (cAss). Paratypes: 17 ♀♀: same data as holotype (cAss, cFel, cGia, cVai); 4 ♀♀: same data as holotype, but "22.VI.2014-18.IX.2015" (cAss).



Figs 1-5: *Domene vailatii*: (1) habitus (holotype); (2) head in lateral view; (3) eye; (4) pronotum; (5) median portion of pronotum. Scale bars: 1-2, 4: 1.0 mm; 3, 5: 0.2 mm.



Figs 6-8: *Domene vailatii*: (7-8) aedeagus in lateral and in ventral view; (6) male sternites VII and VIII in ventral view. Scale bars: 0.5 mm.

E t y m o l o g y : The species is gratefully dedicated to Dante Vailati, one of the collectors, also in appreciation of the ongoing efforts in studying the hypogean Coleoptera fauna of Greece.

D e s c r i p t i o n : Body length 9.3-10.8 mm; length of forebody 5.3-5.9 mm. Habitus as in Fig. 1. Coloration: forebody blackish-brown, rarely paler; abdomen blackish-brown; legs reddish-brown to dark-brown; antennae brown to dark-brown.

Head distinctly oblong, approximately 1.15 times as long as broad, and of oval shape; punctation fine and very dense, interstices distinctly narrower than diameter of punctures; microsculpture absent, except for shallow traces on frons; pubescence depressed, yellowish; neck one-third as wide as head. Eyes (Figs 2-3) strongly reduced, composed of approximately 20 ommatidia without pigmentation. Maxillary palpus long and slender; penultimate palpomere slightly longer than antennomere III. Antenna 4.2-4.5 mm long and slender; all antennomeres distinctly oblong; antennomere III much longer than IV; antennomere IV approximately three times as long as broad; antennomere X approximately twice as long as broad.

Pronotum (Figs 4-5) oblong, approximately 1.3 times as long as broad and 0.85 times as broad as head, maximal width near anterior angles; punctation denser, finer than that of head; median portion of disc more or less extensively with dense and fine longitudinal microstriae rendering the surface matt and the punctation indistinct; marginal portions without such microstriae or other microsculpture.

Elytra 0.75-0.80 times as long as, and slightly narrower than pronotum; disc somewhat depressed or impressed in median portion; punctation fine, dense, and granulose; surface only with subdued shine. Hind wings completely reduced. Legs long and slender; metatarsomere I approximately as long as metatarsomere II; protarsomeres I-IV strongly dilated, without sexual dimorphism.

Abdomen broader than elytra, broadest at segment VI; tergites IV-VI anteriorly with a median pair of weakly delimited, shallow impressions; punctation fine and dense, somewhat less fine in anterior portions of tergites III-VI; interstices with very shallow micro-sculpture; posterior margin of tergite VII without palisade fringe; posterior margin of tergite VIII with weakly pronounced sexual dimorphism.

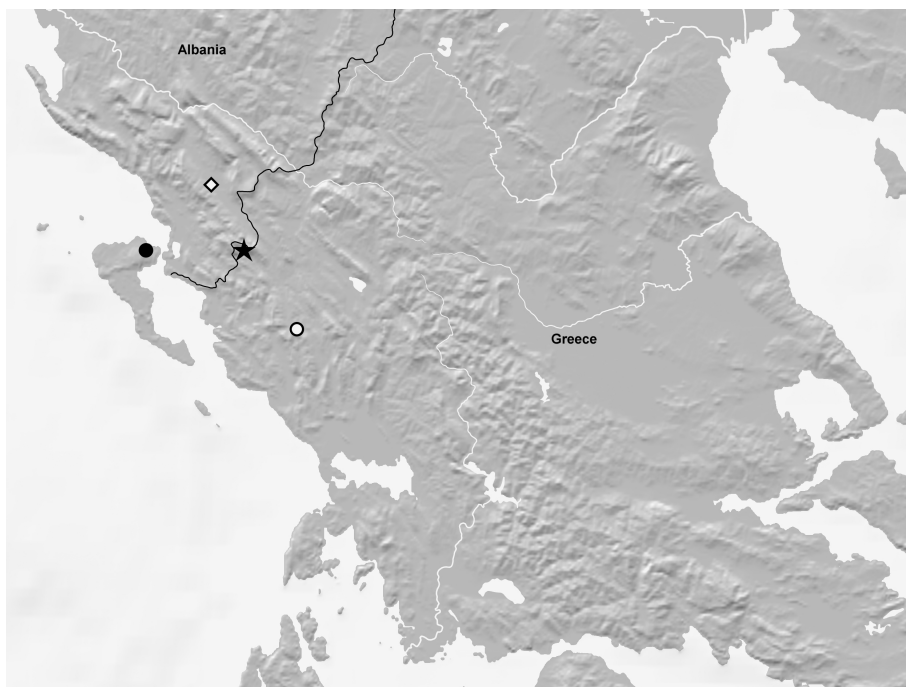
♂: posterior margin of tergite VIII truncate; posterior margin of sternite VII with small and shallow median concavity (Fig. 6); sternite VIII (Fig. 6) with nearly U-shaped posterior excision, pubescence unmodified; aedeagus (Figs 7-8) 0.95 mm long and with stout ventral process of distinctive shape, particularly in lateral view.

♀: posterior margin of tergite VIII convex; sternite VIII with strongly convex posterior margin.

Comparative notes: *Domene vailatii* is distinguished from its congeners by the shape of the aedeagus. The similar external and male sexual characters suggest that it is closely allied to the geographically close hypogean *D. giachinoi* (Thesprotia), *D. behnei* (Corfu), and *D. ziui* (South Albania). It additionally differs from them as follows: from *D. giachinoi* (female unknown) by less strongly reduced eyes, the conspicuous longitudinal microsculpture of the pronotum (absent in *D. giachinoi*), less strongly sculptured anterior portions of the abdominal tergites III-VI, a posteriorly truncate male tergite VIII (weakly convex in *D. giachinoi*), the small posterior concavity of the male sternite VII, and by the shape of the posterior excision of the male sternite VIII.



Fig. 9: Type locality of *Domene vailatii*. Photo: Pier Mauro Giachino.



Map 1: Distributions of hypogean *Domene* species recorded from Greece and Albania: *Domene vailatii* (black star); *D. giachinoi* (white circle); *D. behnei* (black circle); *D. ziui* (white diamond).

from *D. behnei* (female unknown) by the microsculpture of the pronotum, longer and more slender legs, longer and more slender elytra, the small posterior concavity of the male sternite VII, and by the shape of the posterior excision of the male sternite VIII.

from *D. ziui* by longer and more slender legs, and a pronotum with distinct longitudinal microsculpture and without a distinct median sulcus.

For illustrations of *D. giachinoi*, *D. behnei*, and *D. ziui* see ASSING (2007), ZERCHE (2008), and PAVIĆEVIĆ et al. (2014), respectively.

Distribution and bionomics: The type locality is situated in Oros Tsamantá, Thesprotía province, Northwest Greece, very close to the Albanian border and approximately 37 km to the northwest of the type locality of *D. giachinoi* (Map 1). The specimens were collected with subterranean pitfall traps in a rocky deciduous forest at an altitude of 540 m (Fig. 9). The sex ratio is remarkably biased: only one of the 22 type specimens is a male.

Acknowledgements

I am much indebted to Pier Mauro Giachino (Torino) and Dante Vailati (Brescia) for the generous gift of the Staphylinidae from their field trips in Greece, including the remarkable series of *Domene vailatii*. Pier Mauro Giachino also provided the habitat photograph. Benedikt Feldmann (Münster) proof-read the manuscript.

Zusammenfassung

Domene (Domene) vailatii nov.sp. (Griechenland: Thesprotía), die dritte aus Griechenland nachgewiesene hypogäische Art der Gattung *Domene* FAUVEL, 1873, wird beschrieben und abgebildet. Das Geschlechterverhältnis ist extrem unausgeglichen; nur eine der insgesamt 22 Typen ist ein Männchen. Die Verbreitung der vier derzeit aus Griechenland und Albanien bekannten hypogäischen *Domene*-Arten wird anhand einer Karte illustriert.

References

- ASSING V. (2007): The first anophthalmous species of *Domene* FAUVEL from Greece (Coleoptera: Staphylinidae: Paederinae). — Linzer Biologische Beiträge **39** (2): 757-760.
- ASSING V. (2016): Two new species and additional records of *Domene* from China and Vietnam (Coleoptera: Staphylinidae: Paederinae). — Contributions to Entomology **66** (1): 113-118.
- GIACHINO P.M. & D. VAILATI (2010): The subterranean environment. Hypogean life, concepts and collecting techniques. — SBA Handbooks, Verona **3**: 1-132.
- PAVIČEVIĆ D., VUJČIĆ-KARLO S., RAĐA T. & M. POPOVIĆ (2014): A new species of cavernicolous *Domene* (Coleoptera, Staphylinidae, Paederinae) from Albania. — Fauna Balkana **2** [2013]: 289-294.
- PENG Z., LIU S.-N., XIE G.-G., LI L.-Z. & M.-J. ZHAO (2017): New data on the genus *Domene* (Coleoptera: Staphylinidae: Paederinae) of mainland China. — Zootaxa **4329** (5): 449-462.
- SCHÜLKE M. & A. SMETANA (2015): Staphylinidae, pp. 304-1134. — In: LÖBL I. & D. LÖBL (eds), Catalogue of Palaearctic Coleoptera. Volume 2. Hydrophiloidea – Staphylinoidea. Revised and updated edition. Leiden: Brill: xxvi + 1702 pp.
- ZERCHE L. (2008): Eine neue *Domene*-Art aus Griechenland (Coleoptera: Staphylinidae: Paederinae). — Beiträge zur Entomologie, Keltern **58** (2): 471-475.

Author's address:

Dr. Volker ASSING
 Gabelsbergerstr. 2
 D-30163 Hannover, Germany
 E-mail: vassing.hann@t-online.de